

EFFICACY REVIEW

DATE: IN 8-13-99 OUT 9-14-99

FILE OR REG. NO. 432-IUG

PETITION OR EXP. PERMIT NO. _____

DATE DIV. RECEIVED June 24 (roaches, fleas, etc.) and July 22, 1999 (boxelder bug, mosquitoes and deer ticks)

DATE OF SUBMISSION June 22 and July 19, 1999

DATE SUBMISSION ACCEPTED _____

TYPE PRODUCT(S): (I,)D, H, F, N, R, S _____

DATA ACCESSION NO(S). 448582-01, -02, -03 & -04 and 448780-01; D258670 and D258648; S566748 and S566729; Case # 063228; AC:166

PRODUCT MGR. NO. 13-Layne/Leahy

PRODUCT NAME(S) D 100 Insecticide

COMPANY NAME Agrevo Environmental Health

SUBMISSION PURPOSE Provide performance data in support of claims for cockroaches, fleas, etc. (in June 22 submission); boxelder bugs, mosquitoes, deer ticks (July 19 subm.)

CHEMICAL & FORMULATION Deltamethrin 0.01% (8.08 lbs./gal. pressurized ready-to-use spray)

CONCLUSIONS & RECOMMENDATIONS The data presented in EPA Accession (MRID) Number 448582-01, having been obtained from a standard laboratory test conducted according to requirements of § 95-11(b) (1) to (4) and (7) on p. 268 and meeting the standard of § 95-11(c) (1) subpart (ii) (A) on p. 269 of the Product Performance Guidelines, are adequate to demonstrate the ability of the subject product to kill by knockdown and subsequent mortality the following species: Argentine ant, *Iridomyrmex humile* (100% knockdown in 15 min. and 100% mortality at 24 hrs.), odorous house ant, *Tapinoma sessile* (100% KD at 15 min., 100% mortality at 24 hrs.), Southern fire ant, *Solenopsis xyloni* (97.3% KD, 100% mortality), European earwig, *Forficula auricularia* (100% KD, 100% mortality), ground beetles, Carabidae (100% KD, 100% mortality), sowbugs, *Porcellio* spp. (100% KD at 60 min., 100% mortality), funnel weaver spider, Agelenidae (100% KD at 30 min., 100% mortality), cellar spider, *Pholcus phalangiodes* (100% KD at 30 min., 100% mortality), centipede, (to be continued)

Scolopendra sp. (100% KD at 15 min., 100% mortality) and stripe tail scorpion, *Vejovis spinigerus* (100% KD at 60 min., 100% mortality), when these pests were sprayed directly. Data presented in MRID No. 448582-02, having been obtained from a standard laboratory test conducted according to the same requirements and meeting the same standard are adequate to support rapid knockdown and kill of German cockroach, *Blattella germanica* (90% KD [KT₉₀] in 14.5 min., 100% mortality at 24 hrs.) and cat flea, *Ctenocephalides felis* (KT₉₀ of 3.7 min., 100% mortality), when sprayed directly. Data presented in MRID No. 448582-03, having been obtained from a standard laboratory test conducted according to requirements of § 95-11(b)(1) to (4) and (6) and (7) on p. 268 and meeting the standards of § 95-11(c)(1)(ii)(A) on p. 269 and § 95-11(c)(2)(ii)(A)(a) on p. 270 of the Guidelines, are adequate to support both rapid knockdown and kill of cat flea (KT₉₀= 3.8 min., 100% mortality at 24 hrs.) and German cockroach (KT₉₀= 12.9 min., 100% mortality) when sprayed directly and residual kill of these same species (83% KD at 1 hr., 63% mortality at 24 hrs. when fleas are exposed to 1-month-old residues on carpeting; 10% KD at 1 hr., 67% mortality for 2-month-old residues; 3% KD, 57% mortality for 3-month-old residues) (93% KD at 1 hr., 93% mortality at 24 hrs. when cockroaches are exposed to 1-month-old residues on ceramic tile, but only 3% KD and 0% mortality on vinyl tile; 100% KD at 30 min. and 100% mortality for 2-month-old residues on ceramic tile, but no KD or mortality on vinyl tile; 87% KD at 30 min. and 100% mortality for 3-month-old residues on ceramic tile, no test on vinyl tile) when carpeting was sprayed and allowed to dry before exposure to fleas and when ceramic and vinyl tiles were sprayed and aged before exposure to cockroaches. Data presented in MRID No. 448582-04 are not applicable to the subject product as the deltamethrin content of the products tested was from 2X to 2.5X that of the subject product, and these formulations were also combinations with s-bioallethrin at 0.05%. Fortunately, there is independent confirmation of the activity of the subject product formulation against deer tick, *Ixodes scapularis*, in MRID No. 448780-01 in the July 19 submission. These data having been obtained from a standard laboratory test conducted according to requirements previously mentioned and meeting the same standard are adequate to demonstrate the ability of a residual deposit on glass plates to kill deer tick nymphs completely at 10 min. despite no knockdown. In the same test, the 1.0 gm rate of the subject product produced 80% KD at ½ hour, 20% KD at 1 hr. and at 12 hrs. but 0% KD and 100% mortality at 24 hrs. with boxelder bug, *Leptocoris trivittatus*, and 90% KD at 10 min. and 100% KD at 30 min., with 0% mortality at both times, 20% KD and 80% mortality at 12 hrs. and 0% KD but 100% mortality at 24 hrs. with adult yellow fever mosquito, *Aedes aegypti*. Since the results with subject product and a s-bioallethrin/deltamethrin combination are identical for deer tick, we can conclude that results with the subject product against lone star tick will be similar to those with deer tick as indicated by results in MRID No. 448582-04, previously mentioned above. Therefore, these data are collectively adequate to support the following claims appearing on the front panel: (to be contin'd)

"Killing Action and Residual Control", "Kills Fleas-Roaches-Ants-Spiders", "Kills On Contact", "Highly Effective Against Ants... Centipedes, Cockroaches... Fleas... Ground Beetles... Pillbugs, Scorpions... Sowbugs, Spiders, Ticks...", "Protects for up to 4 Weeks", "Keeps on Killing for up to 4 Weeks" and "Keeps on Killing". The other pest claims in the 'Highly Effective...' bullet are covered by data previously reviewed in connection with other deltamethrin formulations, as also are pest claims in various paragraphs in the labeling. Based on the assumption that 0.01% is the lowest deltamethrin concentration to be found in any of the 8 proposed products for whose pending registration the above mentioned data have been submitted for review, we would expect even better residual and knockdown characteristics to be observed in connection with those formulations with higher deltamethrin concentration than resulted with the subject product, provided that unexpected repellency does not occur with them, as was a possibility with boxelder bugs as discussed on p. 7 of MRID No. 448780-01. Note to PM: since these 2 separate submissions were for the same product, it was decided that it would be more efficient to combine them into one review of all the data submitted to support activity against premise pests.

RL Vern L. McFarland, IB